

REMARKS

Applicant has amended claim 2 to rewrite the claim in independent form, reciting all of the features of independent claim 1, and has cancelled claim 1. Applicant has amended claims 4, 8, and 10 to depend from amended claim 2.

Applicant respectfully traverses the 35 U.S.C. § 103(a) rejection of claims 1-19 over U.S. Patent Application Publication No. 2002/0118710 to Kopp et al. ("Kopp '710").

Amended claim 2 recites, among other things, "a defect layer containing a dye . . . disposed between [a] first cholesteric liquid crystal layer and [a] second cholesteric liquid crystal layer . . . wherein the said defect layer is composed of an anisotropic medium." Claim 3 recites, among other things, "a defect layer composed of an anisotropic medium disposed between [a] first cholesteric liquid crystal layer and [a] second cholesteric liquid crystal layer."

As admitted in the Office Action, page 3, Kopp '710 neither discloses nor suggests at least the above-mentioned features of amended claim 2 and original claim 3.

The Office Action contends that "it has been held to be within one skill[ed] in the art discovering optimum value by [selecting a] known material on the basis of its suitability for the intended [use], in this case having [an]anisotropic medium in the defect layer to affect the beam output," referring to ¶ [0044] of Kopp '710. Office Action, pp. 3-4. Applicant respectfully disagrees and submits that the disclosure of an anisotropic layer at ¶ [0044] of Kopp '710 differs from the recitation of an anisotropic medium in the claimed defect layer for at least the following reason.

The as-filed specification discloses e.g., at ¶¶ [0007-0009] that a laser oscillation element uses a defect layer composed of an anisotropic medium in order to decrease a minimum value (threshold value) of incident energy required for laser oscillation.

Kopp '710 discloses at ¶¶ [0010-0016] that a cholesteric liquid crystal is used in place of dielectric stacks used as a Bragg reflector of VCSELs (vertical cavity surface emitted lasers). The same ¶ [0044], relied on by the Office Action, only discloses that cholesteric liquid crystal is modeled as a set of anisotropic layers for a theoretical transmission study "in order to investigate the properties of [a] lasing mode in the presence of gain for CLC samples." In view of the above-mentioned disclosures of Kopp '710, the disclosed use of anisotropic material in Kopp '710 differs from the anisotropic medium recited in the present claims.

Accordingly, one of ordinary skill in the art, in view of the teaching from Kopp '710, would not recognize that selection of an anisotropic medium for a defect layer in Kopp '710 could result in a decrease in a minimum value of incident energy for highly efficient laser oscillation. See M.P.E.P. § 2144.07. Kopp '710, therefore, does not disclose one of a finite number of predictable solutions, with a reasonable expectation of success. Kopp '710 also does not present a case of a predictable use of prior art elements according to their intended use, nor does Kopp '710 present a simple substitution of one known element for another.

For at least the above reasons, Kopp '710 does not establish a prima facie case of obviousness of claims 2-19. See M.P.E.P. § 2143.

Claims 4-10, 13, 14, 16-18 depend from amended claim 2, and incorporate all of the elements of amended claim 2. Claims 4-10, 13, 14, 16-18 are patentable over Kopp '710 at least due to their dependence from amended claim 2.

Claims 11, 12, 15, and 19 depend from claim 3, and incorporate all of the elements of claim 3. Claims 11, 12, 15, and 19 are patentable over Kopp '710 at least due to their dependence from claim 3.

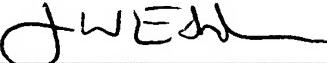
In view of the foregoing amendments and remarks, Applicant respectfully requests reconsideration of this application and timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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